Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/09/2016 Reviewed on 08/09/2016

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1 Identification

· **Product Identifier**

· **Trade name: NuGenTec NR11**
· **Product Number:** ng-NR11
· **Relevant identified uses of the substance or mixture and uses advised against:**
Use as directed by manufacturer.
· **Product Description**
PC14 Metal surface treatment products, including galvanic and electroplating products
· **Application of the substance / the mixture:**
Corrosion inhibitors
Industry-specific application.

· **Details of the Supplier of the Safety Data Sheet:**
· **Manufacturer/Supplier:**
NuGeneration Technologies, LLC (dba NuGenTec)
1155 Park Avenue, Emeryville, CA 94608
salesteam@nugentec.com www.nugentec.com
1-888-996-8436 or 1-707-820-4080 for product information
· **Emergency telephone number:**
PERS Emergency Response: Domestic and Canada - 1-800-633-8253, International 1-801-629-0667

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2 Hazard(s) Identification

· **Classification of the substance or mixture:**

GHS03 Flame over circle

Ox. Liq. 3 H272 May intensify fire; oxidizer.

GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.

GHS09 Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· **Label elements:**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

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Trade name: NuGenTec NR11

· **Hazard pictograms:**

GHS03 GHS06 GHS09

· **Signal word:** Danger

· **Hazard-determining components of labeling:**
Sodium Nitrite

· **Hazard statements:**
H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H400 Very toxic to aquatic life.

· **Precautionary statements:**

P221	Take any precaution to avoid mixing with combustibles.
P210	Keep away from heat.
P220	Keep/Store away from clothing/combustible materials.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves / eye protection / face protection.
P273	Avoid release to the environment.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P321	Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P311	Call a POISON CENTER/doctor.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P370+P378	In case of fire: Use for extinction: CO_2, powder or water spray.
P391	Collect spillage.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 0
Reactivity = 1

The substance possesses oxidizing properties.

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	2
FIRE	0
REACTIVITY	1

Health = 2
Fire = 0
Reactivity = 1

· **Hazard(s) not otherwise classified (HNOC):** None known

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3 Composition/Information on Ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of substances listed below with non-hazardous additions.

· **Dangerous Components:**

7632-00-0	Sodium Nitrite Ox. Sol. 3, H272; Acute Tox. 3, H301; Aquatic Acute 1, H400	25-50%

· **Additional information:**
The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

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4 First-Aid Measures

· **Description of first aid measures:**
· **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may occur after exposure to dust, fumes or particulates; seek medical attention if feeling unwell.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation occurs, consult a doctor.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting without medical advice.
If vomiting does occur, repeat fluid administration
Seek immediate medical advice.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed:**
No further relevant information available.

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· **Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

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5 Fire-Fighting Measures

· **Extinguishing media:**
· **Suitable extinguishing agents:**
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture:**
This product contains Sodium Nitrite, which is an oxidizer and will release oxygen gas upon thermal decomposition with may intensify fires. Use extreme caution. If containers begin to blacken or vent violently, evacuate area and fight fire from a distance.
· **Advice for firefighters:**
· **Protective equipment:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

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6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures:**
Wear protective equipment. Keep unprotected persons away.
Do not breathe vapor.
Avoid contact with skin, eyes and clothing.
Ensure adequate ventilation.
Keep away from ignition sources
Treat any fumes as toxic.
Keep people at a distance and stay upwind.
· **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (ie. sand, diatomite, universal binders), do NOT use sawdust.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
Dispose of the collected material according to regulations.
· **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7 Handling and Storage

· **Handling**
· **Precautions for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

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Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Protect from heat.
Keep protective respiratory device available.

· **Conditions for safe storage, including any incompatibilities:**
· **Storage**
· **Requirements to be met by storerooms and receptacles:** Store in the original container.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
· **Specific end use(s):** No further relevant information available.

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8 Exposure Controls/Personal Protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters:**
All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.
· **Components with occupational exposure limits:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· **Exposure controls:**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing and wash before reuse.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
· **Breathing equipment:**

Suitable respiratory protective device recommended.

· **Protection of hands:**

Protective gloves

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Select glove material based on penetration times, rates of diffusion and degradation.

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· **Material of gloves:**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material:**
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
· **Eye protection:**

Goggles recommended during refilling.

· **Body protection:**

Protective work clothing

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9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Color:	Colorless
· **Odor:**	Mild
· **Odor threshold:**	Not determined.
· **pH-value @ 20 °C (68 °F):**	9
· **Change in condition**	
Melting point/Melting range:	--
Boiling point/Boiling range:	100 °C (212 °F)
· **Flash point:**	None
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	240 °C (464 °F)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	0.0 Vol %
Upper:	0.0 Vol %
· **Vapor pressure @ 20 °C (68 °F):**	23 hPa (17 mm Hg)

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· **Density @ 20 °C (68 °F):**	1.467 g/cm³ (12.242 lbs/gal)
· **Relative density:**	Not determined.
· **Vapor density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility in / Miscibility with:**	
Water:	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic @ 20 °C (68 °F):	1 mPas
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	0.0 %
Water:	60.0 %
Solids content:	40.0 %
· **Other information:**	No further relevant information available.

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10 Stability and Reactivity

· **Reactivity:** No further relevant information available.
· **Chemical stability:** Stable under normal conditions.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions:** No dangerous reactions known.
· **Conditions to avoid:** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological Information

· **Information on toxicological effects:**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
7632-00-0 Sodium Nitrite		
Oral	LD50	175 mg/kg (mouse)
		157.9 mg/kg (rat)
Inhalative	LC50/96 hours	0.94-1.92 mg/l (Trout)

· **Primary irritant effect:**
· **On the skin:** No irritating effect.
· **On the eye:** No irritating effect.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic

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Harmful

· **Carcinogenic categories:**
· **IARC (International Agency for Research on Cancer):**
Group 1 - Carcinogenic to humans
Group 2A - Probably carcinogenic to humans
Group 2B - Possibly carcinogenic to humans
Group 3 - Not classifiable as to its carcinogenicity to humans
Group 4 - Probably not carcinogenic to humans

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

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12 Ecological Information

· **Toxicity:**
· **Aquatic toxicity:**
Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

7632-00-0 Sodium Nitrite	
EC50	12.5 mg/l (Water flea)

· **Persistence and degradability:** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential:** No further relevant information available.
· **Mobility in soil:** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Very toxic for fish
· **Additional ecological information:**
· **General notes:**
Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
Poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
· **Results of PBT and vPvB assessment:**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects:** No further relevant information available.

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13 Disposal Considerations

· **Waste treatment methods:**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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Observe all federal, state and local environmental regulations when disposing of this material.

· **Uncleaned packagings**
· **Recommendation:**
Disposal must be made according to official regulations.
Dispose of as unused product.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport Information

· **UN-Number:**
· **DOT, ADR, IMDG, IATA** UN3122
· **UN proper shipping name:**
· **DOT** Toxic liquids, oxidizing, n.o.s.
· **ADR** UN3122 Toxic liquids, oxidizing, n.o.s., ENVIRONMENTALLY HAZARDOUS
· **IMDG, IATA** TOXIC LIQUID, OXIDIZING, N.O.S.
· **Transport hazard class(es):**

· **DOT**

· **Class:** 6.1 Toxic substances
· **Label:** 6.1, 5.1

· **ADR**

· **Class:** 6.1 (TO1) Toxic substances
· **Label:** 6.1+5.1

· **IMDG**

· **Class:** 6.1 Toxic substances
· **Label:** 6.1/5.1

· **IATA**

· **Class:** 6.1 Toxic substances

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· **Label:**	6.1 (5.1)
· **Packing group:**	
· **DOT, ADR, IMDG, IATA**	II
· **Environmental hazards:**	
· **Special marking (ADR):**	Symbol (fish and tree)
· **Special precautions for user:**	Warning: Toxic substances
· **Danger code (Kemler):**	65
· **EMS Number:**	F-A,S-Q
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Excepted quantities (EQ):**	Code: E4 Maximum net quantity per inner packaging: 1 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 3122 TOXIC LIQUIDS, OXIDIZING, N.O.S., 6.1 (5.1), II, ENVIRONMENTALLY HAZARDOUS

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15 Regulatory Information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
· **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**
7632-00-0 Sodium Nitrite

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed or exempt from listing.

· **California Proposition 65:**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **New Jersey Right-to-Know List:**
7632-00-0 Sodium Nitrite

· **New Jersey Special Hazardous Substance List:**
None of the ingredients are listed.

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· **Pennsylvania Right-to-Know List:**	
7632-00-0	Sodium Nitrite

· **Pennsylvania Special Hazardous Substance List:**		
7632-00-0	Sodium Nitrite	E

· **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**
None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH):**
None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**
None of the ingredients are listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**

GHS03 GHS06 GHS09

· **Signal word:** Danger

· **Hazard-determining components of labeling:**
Sodium Nitrite

· **Hazard statements:**
H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H400 Very toxic to aquatic life.

· **Precautionary statements:**
P221 Take any precaution to avoid mixing with combustibles.
P210 Keep away from heat.
P220 Keep/Store away from clothing/combustible materials.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves / eye protection / face protection.
P273 Avoid release to the environment.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P311 Call a POISON CENTER/doctor.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330 Rinse mouth.
P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
P391 Collect spillage.
P405 Store locked up.

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P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision:** 08/09/2016 / -

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Ox. Liq. 3: Oxidizing liquids – Category 3
Ox. Sol. 3: Oxidizing solids – Category 3
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

· *** Data compared to the previous version altered.**

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